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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,284

08/23/2006

Bjorn Christiansen

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DENNISON, SCHULTZ & MACDONALD  
1727 KING STREET  
SUITE 105  
ALEXANDRIA, VA 22314

EXAMINER

TURNER, SONJI LUCAS

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

05/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/598,284	CHRISTIANSEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	SONJI TURNER	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 8/23/06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/23/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. However, the specification is replete with grammatical errors that include run-on sentences and improper punctuations, spelling errors (or typographical errors), and usage errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

### ***Claim Objections***

2. Claims 1-9 are objected to because of the following informalities: reference characters are used in the claims without providing language defining the metes and bounds of the instant invention. Claims are interpreted in view of the specification without importing limitations from the specification into the claim. As presented, the use of reference characters promotes importing limitations from the specification into the instant claims that are not part of the claim. Appropriate correction is required. See MPEP §2111.01.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Structural limitations are unclear and/or not defined. For examination purposes, the

phrase "the most even expansion obtainable" is assumed to mean the vanes are evenly spaced with gradual expansion.

5. Claim 2 recites the limitation "the diffuser channels" in line 4. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 5, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by McEwan '424 (US 4,767,424) or GB '699 (GB 1,119,699).

8. Regarding claims 1 and 2, McEwan '424 and GB '699 teach a vane diffuser for separators with a distribution chamber in communication with the separator inlet, top and bottom plates, and a plurality of curved, parallel vanes with varying thickness in the flow direction and evenly spaced (McEwan '424 – figs. 1, 2; col. 4, lines 42-51; GB '299 – fig. 4-5; p. 2, lines 70-110; p. 3. lines 42-56; 105-115).

9. Regarding claim 5, GB '699 teaches a cavity that communicates with the outer edge of the vane through slots to allow liquid to flow into the cavity and blow the vane diffuser through a passage in the bottom plate (p. 3, lines 115-130; p. 4, lines 1-10).

10. Regarding claims 6 and 7, GB '699 teaches an accumulation space for liquid with a channel arranged to drain liquid (p. 3, lines 25-36, 115-130; p. 4, lines 1-10).

***Claim Rejections - 35 USC § 103***

11. Claims 3, 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McEwan '424 and GB '699.

Regarding claims 3 and 4, the teachings in the prior art references are set forth above. GB '699 does not explicitly state a width of the vane as a percentage related to the length of the vane or a ratio between the width and length of the vane. However, GB '699 does teach that the vanes can be extended over any desired part of the cylindrical circumference of the vessel (p. 3, lines 105-115). As such, it would have been obvious for one of ordinary skill to rearrange parts, or optimize the dimensions of the vane, to meet the separation needs of the system.

Regarding claims 8 and 9, the teachings in the prior art references are set forth above. McEwan '424 does explicitly teach wall arranged around the circumference of the top plate with a draining channel for the vane diffuser. However, McEwan '424 does teach another separation device, a coalescer, with many forms which include a layer of vanes. The coalescer of McEwan '424 has a wall around arranged around the top plate with a draining channel. It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use the walls of the coalescer for the purpose of supporting the vanes and draining channel of the vane diffuser for liquid removal. One skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and is listed on PTO-892 (Notice of References Cited). The references are considered to be of interest, as the references relate to the art of fluid inlet separation devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonji Turner whose telephone number is 571-272-1203. The examiner can normally be reached on Monday - Friday, 10:00 am – 2:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Duane S. Smith/  
Supervisory Patent Examiner, Art Unit  
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5-27-08

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05/23/08